

PELCO

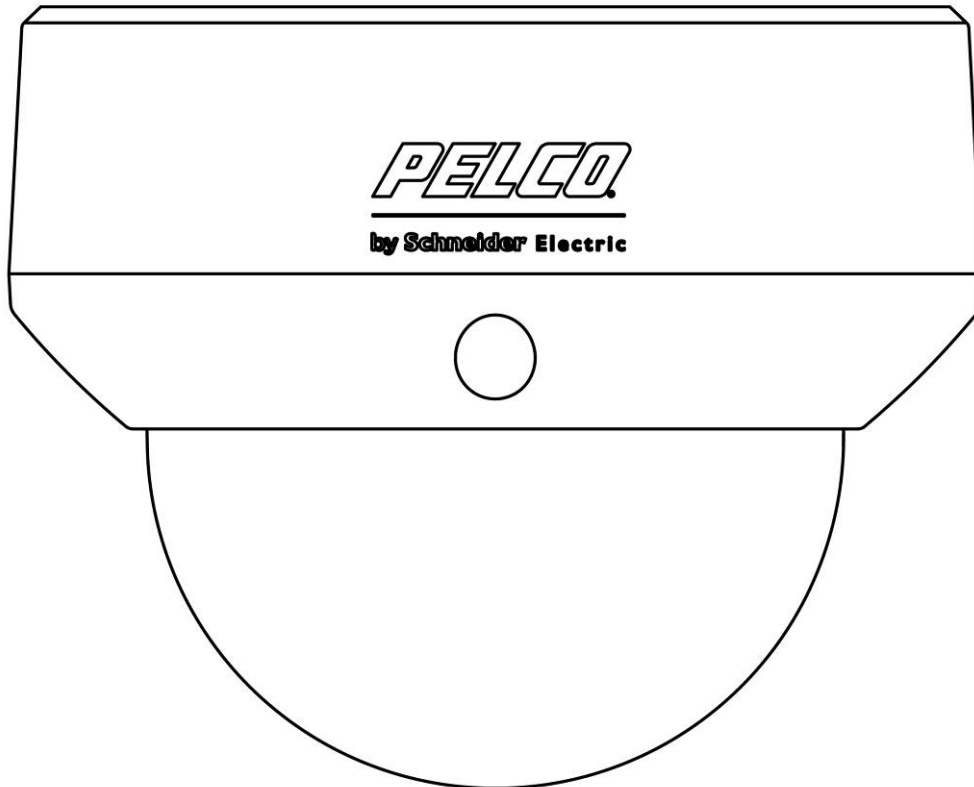
by Schneider Electric

FD5 Series 650 TV lines

Ruggedized/Outdoor Dome Camera

Installation/Operation Manual

18 to 32 VAC (Revision A)



EN_C3970M (05/14)

Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.

FD5 series model names:

FD5-V9-6(X)
FD5-DV10-6(X)
FD5-IRV10-6(X)
FD5-DWV10-6(X)
FD5-DWV22-6(X)

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with dry cloth.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the points where they exit from the apparatus.
9. Only use attachments/accessories specified by the manufacturer.
10. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
12. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
13. Installation should be done only by qualified personnel and conform to all local codes.
14. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
15. Use only installation methods and materials capable of supporting four times the maximum specified load.
16. Use stainless steel hardware to fasten the mount to outdoor surfaces.
17. To prevent damage from water leakage when installing a mount outdoors on a roof or wall, apply sealant around the bolt holes between the mount and mounting surface.
18. An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.
19. A readily accessible disconnect device shall be incorporated in the building installation wiring.
20. The socket-outlet shall be installed near the equipment and shall be easily accessible.

Important Notices

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type. Dispose of used batteries according to the instructions provided by the battery manufacturer.

Only use replacement parts recommended by Pelco.

The product and/or manual may bear the following marks:



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

CAUTION: RISK OF ELECTRIC SHOCK. DO NOT OPEN.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit



WARNING: This product is sensitive to Electrostatic Discharge (ESD). To avoid ESD damage to this product, use ESD safe practices during installation. Before touching, adjusting or handling this product, correctly attach an ESD wrist strap to your wrist and appropriately discharge your body and tools. For more information about ESD control and safe handling practices of electronics, please refer to ANSI/ESD S20.20-1999 or contact the Electrostatic Discharge Association (www.esda.org).

REGULATORY NOTICES [FCC CLASS B]

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Warranty

For information about Pelco's product warranty and thereto related information, refer to www.pelco.com/warranty.

Operating Notes:

Warning:

For FD5 camera 18 to 32 VAC (Revision A); released in 2014,

- Connect to 12 VDC or 18 to 32 VAC power adapter

For older FD5 cameras (Prior to Revision A)

- Connect to 12 VDC or 24 VAC power adapter.

Operating Conditions

- Avoid viewing very bright objects (for example, light fixtures) for extended periods.
- Avoid operating or storing the unit in the following locations:
 - Extremely humid, dusty, hot/cold environments where the operating temperature is outside the recommended range.
 - Close to sources of powerful radio or TV transmitters
 - Close to fluorescent lamps or objects reflecting light
 - Under unstable light sources (may cause flickering)

Suggested Installation:

- For outdoor environmental conditions from -30°C to +50°C (-22°F to 122°F), use only an AC power supply source (18 to 32VAC)
- For indoor or outdoor applications with ambient temperatures of 0°C to +50°C (32°F to 122°F), use 12VDC power, or an AC power supply source (18 to 32VAC)

1. Introduction

The dome camera series are ideal for outdoor installation in a commercial environment. With 3-axis mount support, it provides flexible installation on a ceiling or wall even at an angle.

1.1 Before You Begin

Please read this guide carefully before you install the dome camera. Keep this guide for future reference.

1.2 Package Contents

Check that the items received match those listed on the order form and packing slip. The dome camera series packing box includes:

- One fully assembled camera
- Four screw anchors and TP4x25mm tapping screws
- Four M4x15mm screws
- One guide pattern
- One user manual
- One waterproof plug
- One T20 wrench

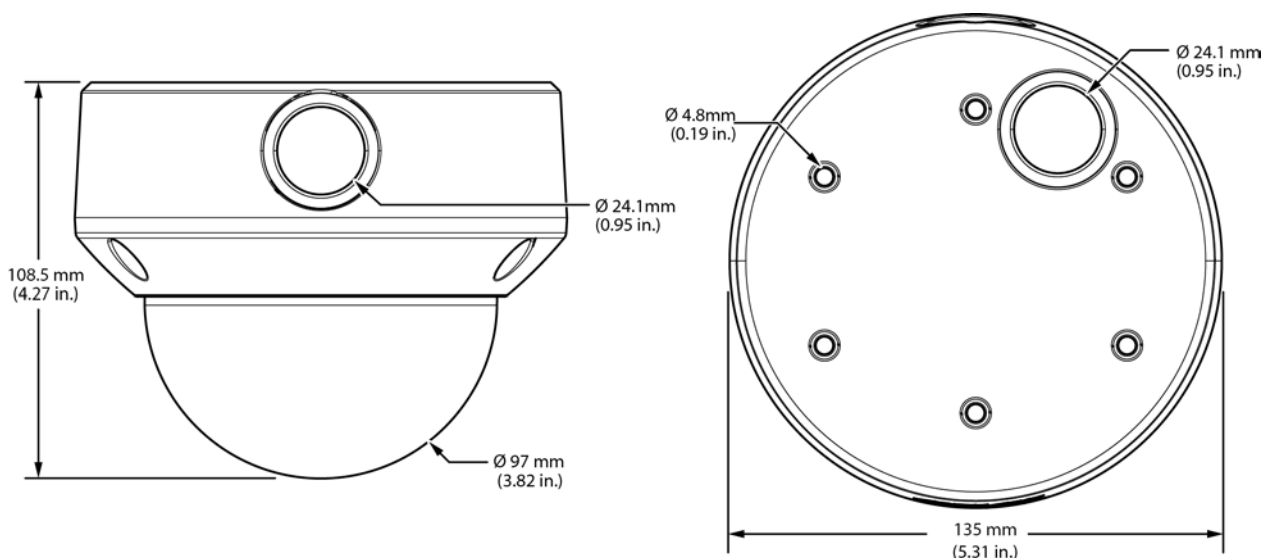
If any parts are missing or damaged, contact the dealer you purchased the camera from.

1.3 Optional Accessories

- FD-SC service cable

We recommend you connect a local viewing monitor via the optional FD-SC service cable for setup.

1.4 Dimensions



Introduction

1.5 Names of Camera Parts

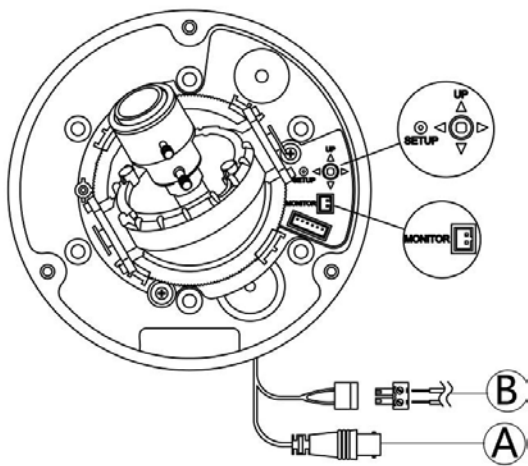


Figure 1-1 FD5-V9-6(X)

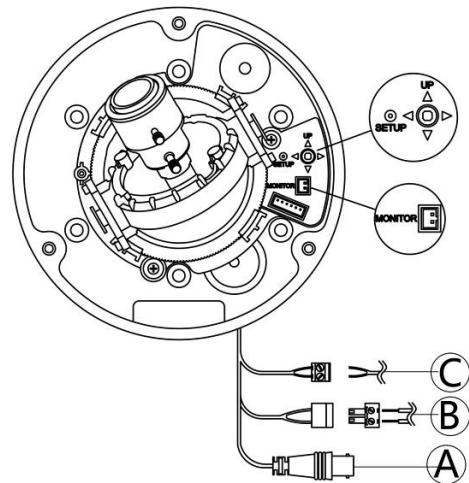


Figure1-2 FD5-DV10-6(X)

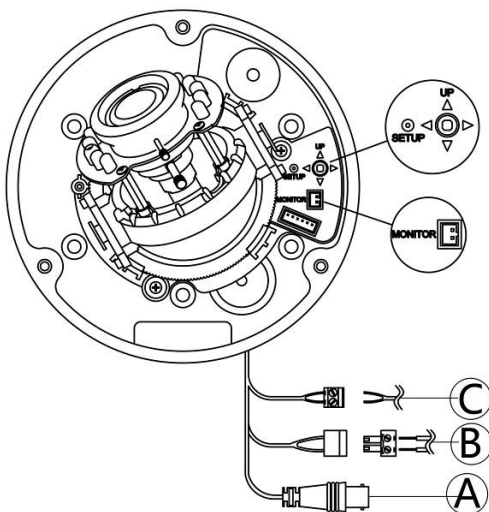


Figure1-3 FD5-IRV10-6(X)

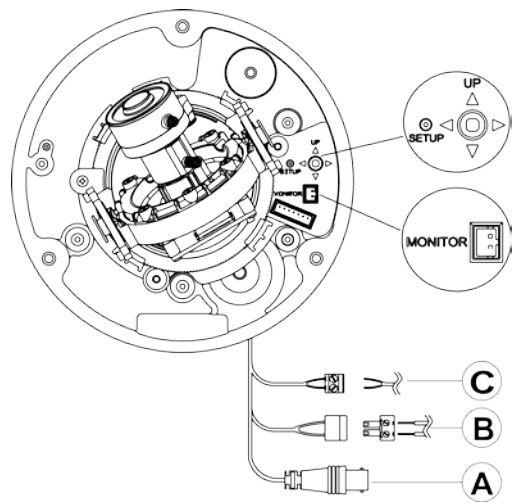


Figure1-4 FD5-DWV10-6(X)
FD5-DWV22-6(X)

- A. Video output connector
- B. 18 to 32 VAC /12 VDC power Input connector (Red +/Black -)
- C. Alarm Out: Connect to device that responds to alarm signals (Blue+/Brown-).

Note: See Figure 2-7 for camera setup controls.

1.6 Routine Maintenance

- The dome cover is an optical part. Use a soft, dry cloth to remove any fingerprints or dust.
- Clean the camera housing with a soft, dry cloth. For more stubborn stains, use a cloth dampened with a small quantity of neutral detergent, then wipe dry.

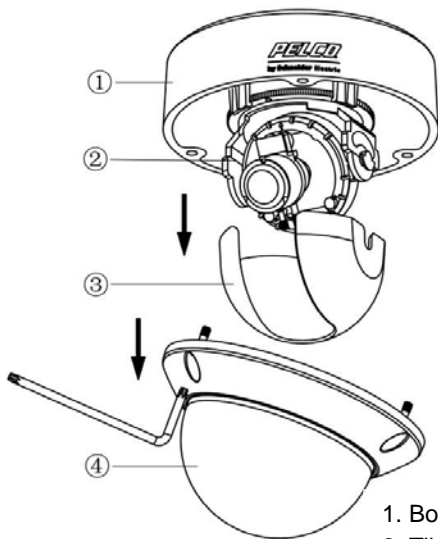
Caution: Do not use volatile solvents such as alcohol, benzene or thinners to avoid damaging the surface finish.

2. Installation

2.1 Disassembling the Camera

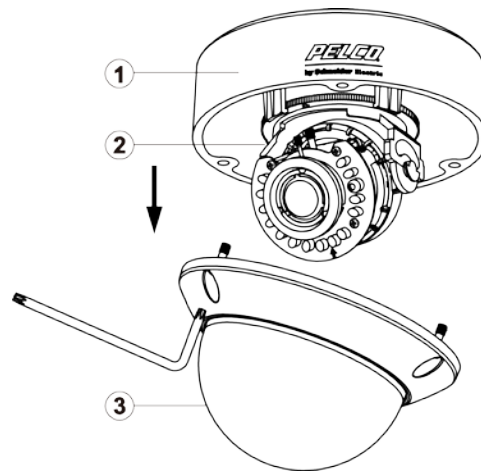
Before you mount and adjust the camera, follow these steps to disassemble the camera.

1. Loosen the installed torx screws and remove them.
2. Remove the inner liner by gently pulling it free from the tilt adjustment bracket. For the models without inner liner, please simply skip this step.
3. Set the dome cover (and liner) aside.



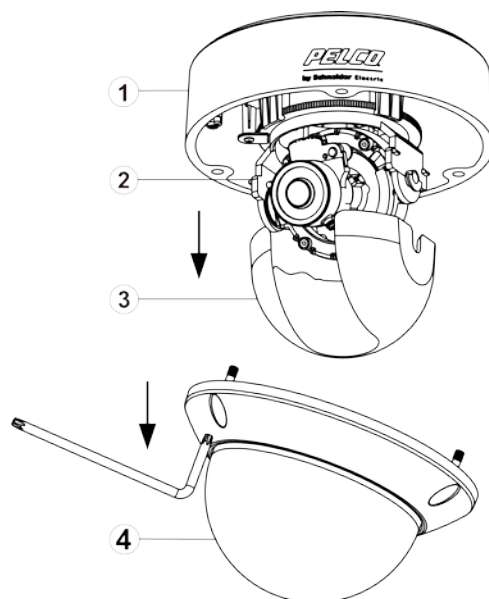
1. Bottom case
2. Tilt adjustment bracket
3. Inner liner
4. Dome cover

FD5-V9-6(X)/FD5-DV10-6(X)



1. Bottom case
2. Tilt adjustment bracket
3. Dome cover

FD5-IRV10-6(X)



FD5-DWV10-6(X)
FD5-DWV22-6(X)

1. Bottom case
2. Tilt adjustment bracket
3. Inner liner
4. Dome cover

Figure 2-1 Disassemble the Camera

Installation

2.2 Installing the Waterproof Plug

Plug the waterproof plug into the side conduit hole, or bottom conduit hole if side conduit hole is used for wiring. See “2.9 General help for installing waterproof plug” for more information.

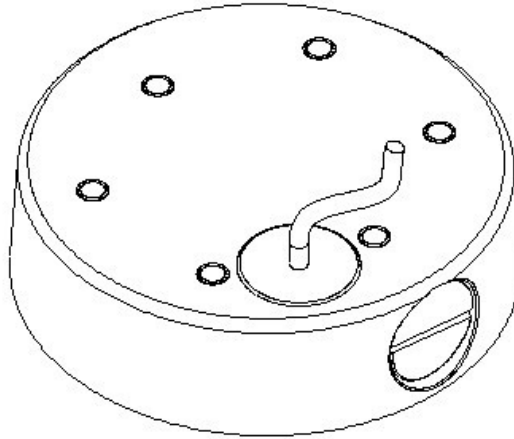


Figure 2-2 Waterproof Plug Installation

2.3 Connecting the Wiring

Refer to Figure 1-1/1-2/1-3/1-4 to connect the video connect output connector (A) and 24 VAC/18 to 32 VDC power connector (B).

Caution: For DC power supply use, make sure the polarity is correct to avoid malfunction and / or camera damage.

Note: When powering camera using 12VDC, we recommend that the camera is installed with a separate, isolated power supply to minimize power-related video interference.

2.4 Mounting the Camera

1. Attach the mounting template to the wall or ceiling.

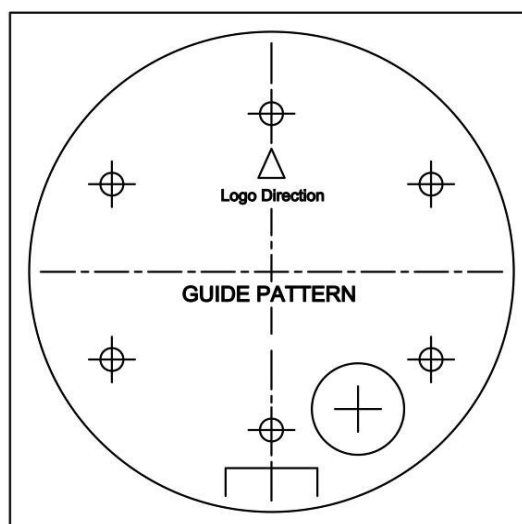


Figure 2-3

Installation

2. Before mounting the dome on a ceiling or a wall, please designate two screw holes or four screw holes and pull out the corresponding outer rubber plugs by using tools like a screwdriver, etc.

Note: With four screw anchors and TP4x25mm tapping screws provided, you can choose two-hole installation (refer to **Figure 2-4**) or change to four-hole installation (refer to **Figure 2-5**) when mounting the camera on a ceiling or wall. This manual describes two-hole installation only.

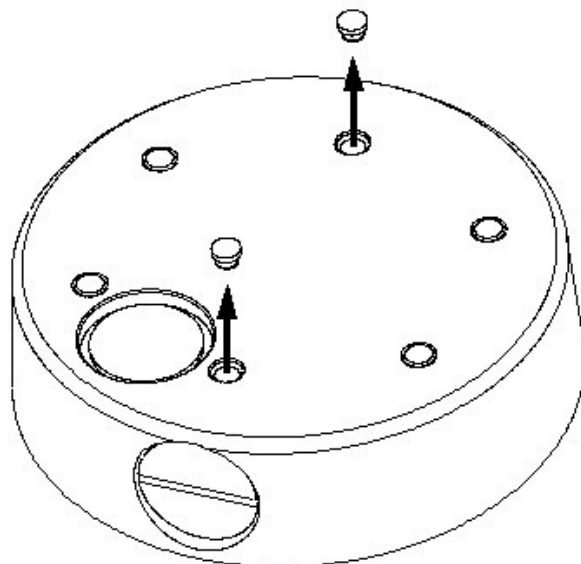


Figure 2-4

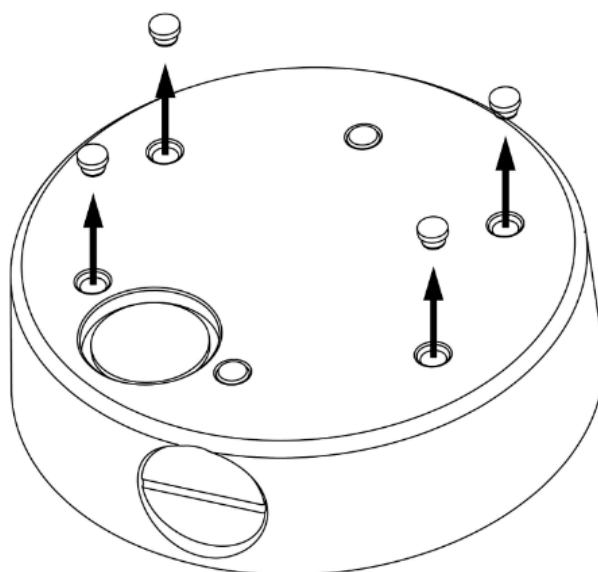


Figure 2-5

Note: Don't pull out the other rubber plugs to keep the IP66 performance of the camera. Also, never remove the inside rubber plugs. Always install mounting screw through the inside plug.

Installation

3. Drill two holes, and then insert the screw anchors (#1) into the holes.
4. Secure the bottom case to the wall or ceiling with the TP4 x 25 mm tapping screws supplied (#2).

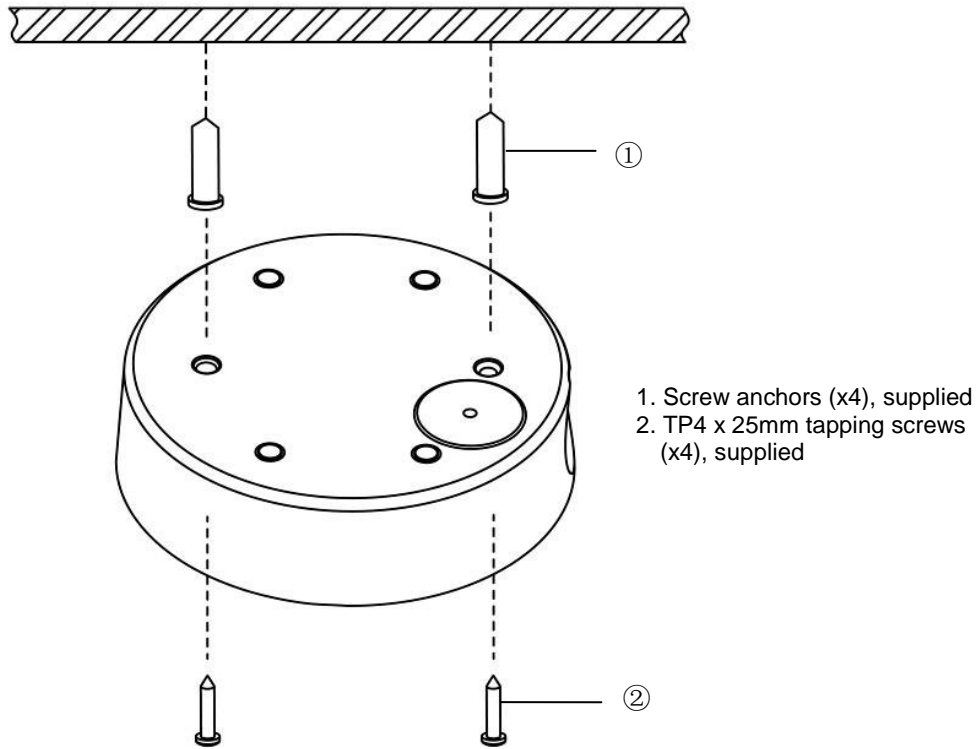


Figure 2-6 (typical)

Note: Depending on the material of your mounting surface, you may require different screws and anchors than those supplied. Use caution to maintain a water tight seal to the mounting hardware.

Installation

2.5 Optional Camera Settings

Refer to Figure 2-7 to locate the OSD joystick control on the camera board. Use the joystick to access the OSD menu and configure the camera settings as required.

To use the OSD joystick control:

- Press the OSD joystick control straight down to enter the Main menu or a selected item.
 - Move the OSD joystick control UP, DOWN, LEFT and RIGHT to navigate through menus and options.
- For further information on OSD settings, refer to the “**4.OSD Settings**” section.

Note: Connect a local viewing monitor via the optional FD-SC service cable for setup.

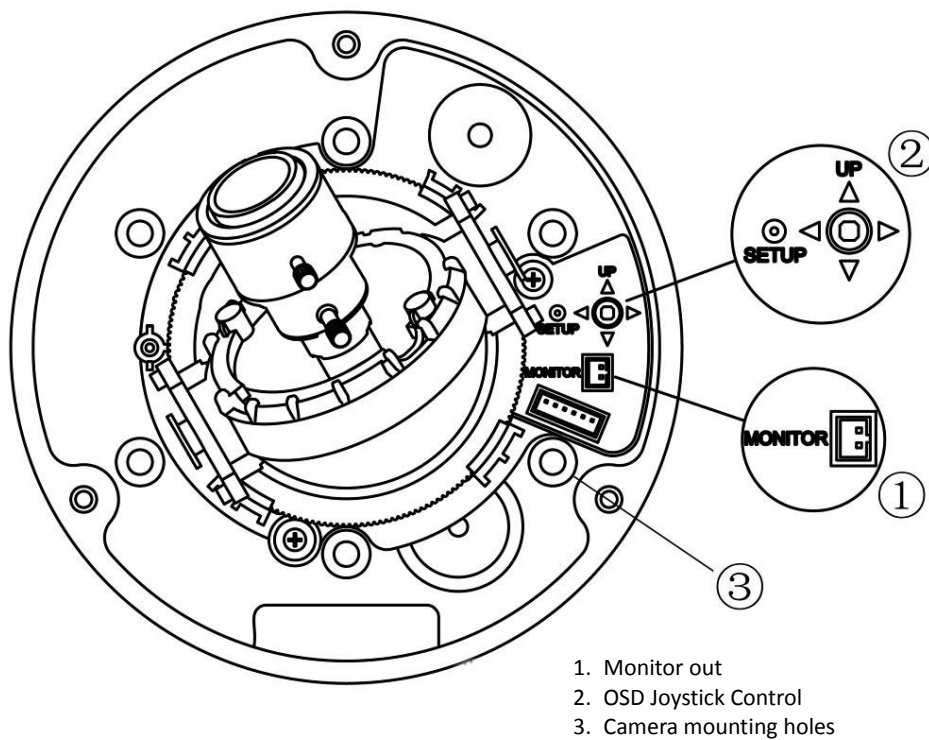


Figure 2-7 Camera Adjustment Controls

Installation

2.6 Adjusting the Camera Position

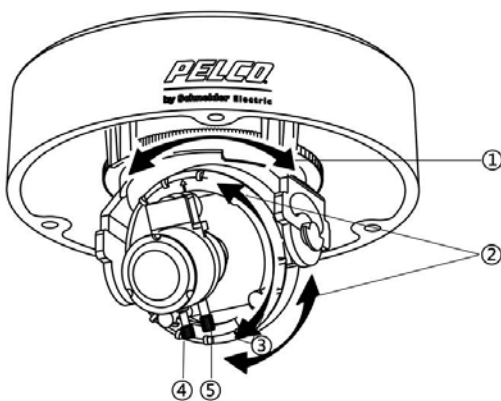
The dome camera has three axes for positioning the camera. While monitoring the picture on the monitor, adjust the camera position as follows:

- **Pan Adjustment:** Rotate 3D assembly in the base. Do not turn assembly more than 360° as this may cause the internal cables to twist and disconnect or break.
- **Tilt Adjustment:** After loosening the screw on the bracket, position the camera as desired, and then tighten the screw back to the bracket.
- **Horizontal Rotation:** For wall mount and tilted ceilings, rotate the lens base (maximum 360°) until you are satisfied with the field of view.

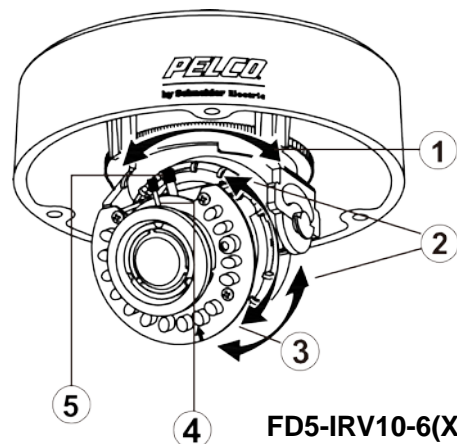
2.7 Adjusting the Lens (if equipped with vari-focal lens)

1. Loosen the zoom lever (#4) counter-clockwise a little, and then rotate the zoom lever and determine the image view.
2. Loosen the focus lever (#5) counter-clockwise a little, and then adjust the focus for optimum picture sharpness.
3. Re-tighten the zoom lever and focus lever after adjustment.

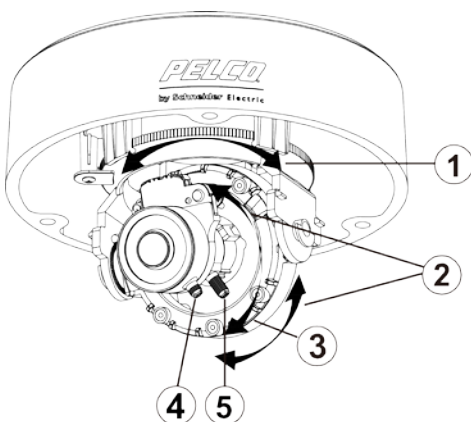
Note: It is important that you lock the zoom and focus levers after making adjustments. This will avoid the positions moving (for example, from temperature changes or vibrations).



FD5-V9-6(X)/FD5-DV10-6(X)



FD5-IRV10-6(X)



FD5-DWV10-6(X)
FD5-DWV22-6(X)

Instructions for the Figure 2-8 Camera adjustment:

1. Rotate 3D assembly in base for horizontal adjustment
2. Tilt adjustment bracket and screw for vertical adjustment
3. Axis ring for horizontal rotation on wall mount / tilted ceilings
4. Zoom lever
5. Focus lever

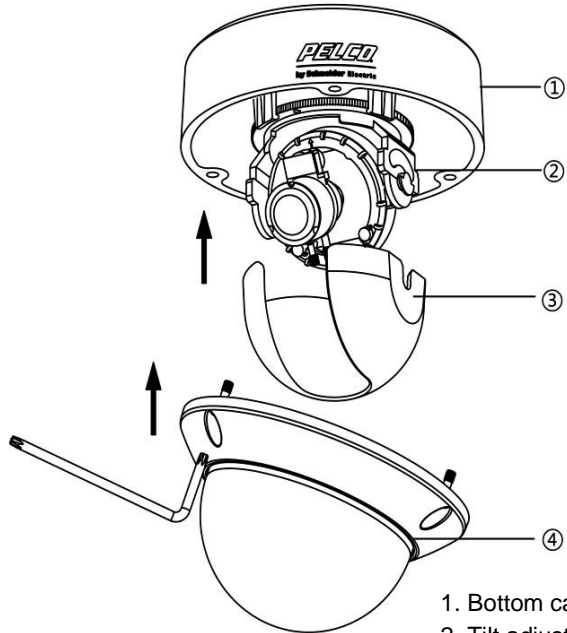
Figure 2-8 Camera Adjustment

Installation

2.8 Completing the Installation

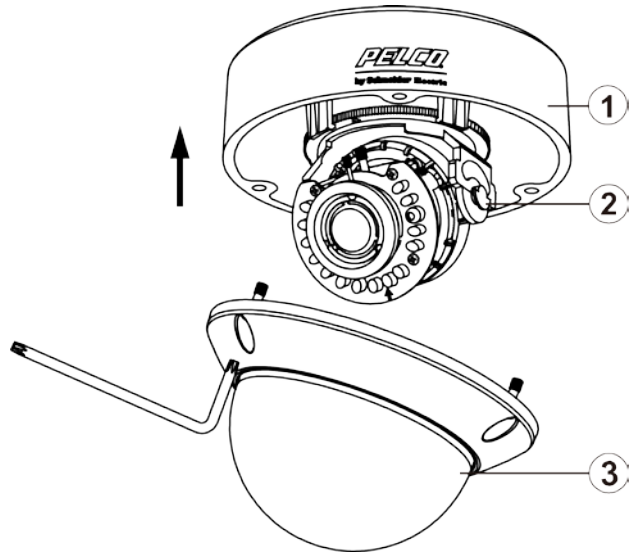
Once all adjustments are done, attach and secure the camera housing:

1. Use a soft, lint-free cloth to wipe the dome cover clean and remove fingerprints.
2. Attach the inner liner to the tilt adjustment bracket. Push down until it clicks into place (with no liner skip this step). Disconnect the optional FD-SC service cable.
3. Assemble the dome cover and the bottom case.



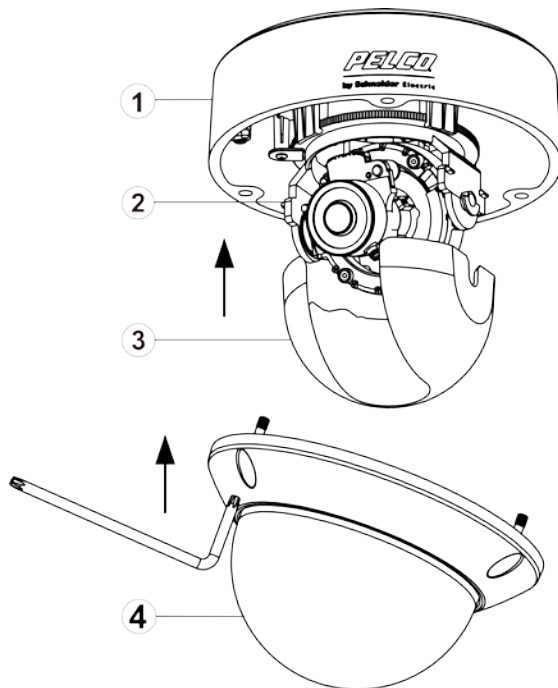
1. Bottom case
2. Tilt adjustment bracket
3. Inner liner
4. Dome cover

FD5-V9-6(X)/FD5-DV10-6(X)



1. Bottom case
2. Tilt adjustment bracket
3. Dome cover

FD5-IRV10-6(X)



**FD5-DWV10-6(X)
FD5-DWV22-6(X)**

1. Bottom case
2. Tilt adjustment bracket
3. Inner liner
4. Dome cover

Figure 2-9 Completing the Installation

Installation

2.9 General Help for Waterproof Plug Installation

As “2.2 Installing the waterproof plug” mentioned, install the waterproof plug into the side conduit hole.

If you want to install the waterproof plug to the bottom of the camera, please take the following steps:

1. Unplug the camera's internal Output cable connector that inserted in the interface (refer to **Figure 2-10**) and push the waterproof rubber plug out from within camera as shown in **Figure 2-11**.

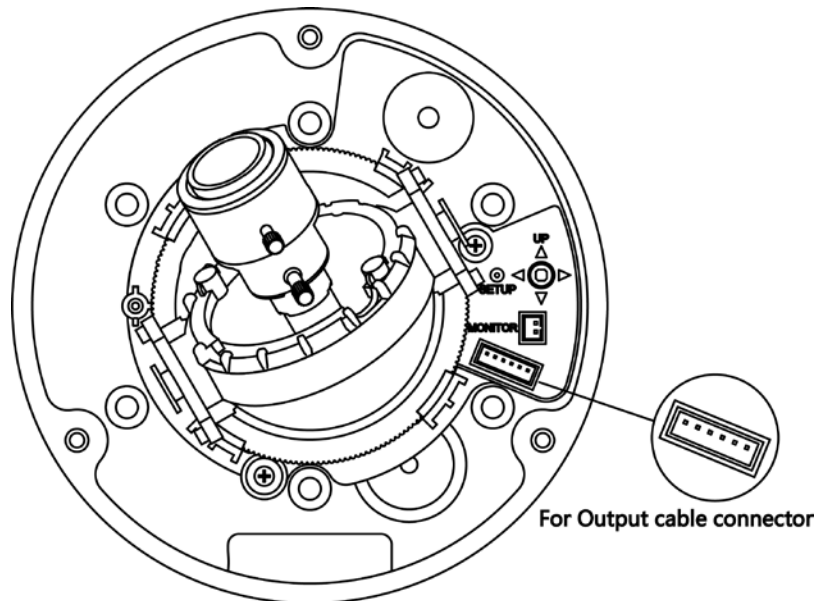


Figure 2-10

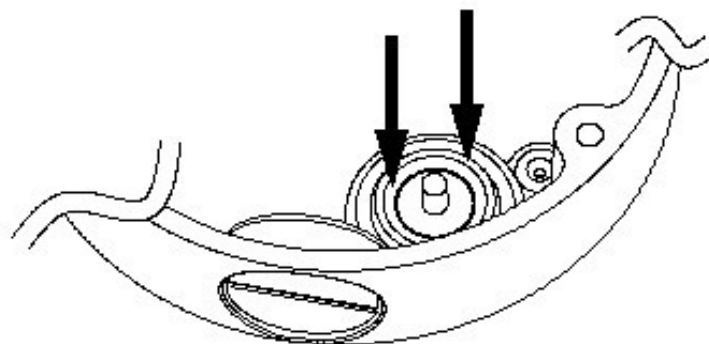


Figure 2-11

2. Remove waterproof plug from the side of the camera and install it to the bottom as **shown in Figure 2-12**.
3. Put Output cable through the side conduit hole and insert the cable waterproof rubber plug into the side conduit hole (refer to **Figure 2-12**).

Installation

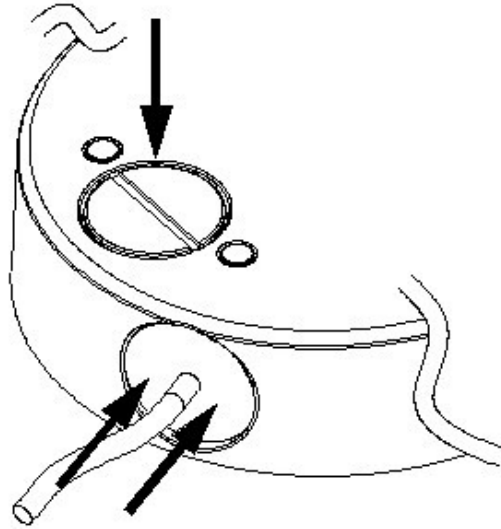


Figure 2-12

Notes:

- Please make sure to lock the bottom waterproof plug to avoid waterproof failure.
 - Please make sure to plug the cable waterproof rubber plug into the side conduit hole tightly to avoid waterproof failure.
4. Confirm the internal waterproof rubber plug is tightly fixed with under cover for preventing it from falling out or waterproof failure (refer to **Figure 2-13**).

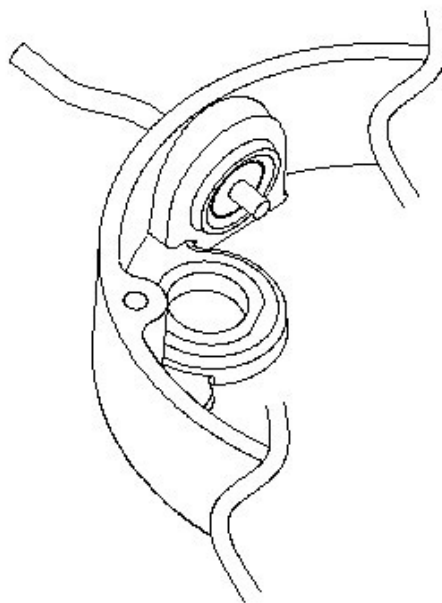


Figure 2-13

5. Re-plug the camera's internal output cable connector.
6. Complete waterproof plug installation.

OSD Setup Menu

3. OSD Menu

Set up menu	Default set	Menu
Lens	AUTO	AUTO/Manual
Shutter/AGC	AUTO	AUTO (High Luminance, Low Luminance)/ Manual (Mode, Shutter, AGC)
WHITE BAL	ATW	ATW/Push Lock/User1/User2/Anti CR/Manual
Backlight	OFF	OFF/BLC/HLC
Pic Adjust	Option	Mirror, Brightness, Contrast, Sharpness, Hue, Gain
ATR	OFF	OFF/ON (Luminance, Contrast)
Motion Det	OFF	OFF/ON (Detect Sense, Block DISP, Motion Area, Area Sel)
Privacy	OFF	OFF/ON (Area Sel, Color, Transp, Mosaic)
Day/Night	AUTO	AUTO/BW/Color
NR	OFF	NR Mode (Off, Y, C) Y Level C Level
Camera ID	OFF	OFF/ON
SYNC	INT	INT
Language	English	ENGLISH / SPANISH / RUSSIAN / GERMAN / FRENCH / JAPANESE or PORTUGUESE
Camera Reset		
Exit		
Save All		

Table 3-1 OSD Menu of FD5-V9-6(X)/ FD5-DV10-6(X)/ FD5-IRV10-6(X)

Note: The **FD5-IRV series** camera will automatically switch to B/W mode when the illumination is under a certain threshold. Day/Night setting is not available for this model.

OSD Setup Menu

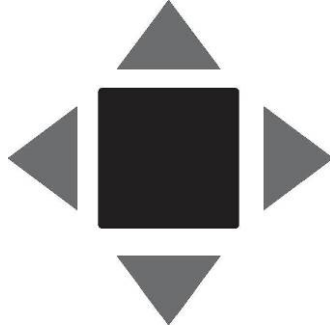
Set up menu	Default set	Menu
Lens	AUTO	Auto / Manual
Shutter / AGC	Option	Auto (High Luminance, Low Luminance)
White / Bal	ATW	ATW, PUSH, USER1, USER2, Anti CR , MANUAL, PUSH LOCK
HLC / BLC	Option	OFF / BLC / HLC
Pic Adjust	Option	Flip, Contrast, Sharpness, Chroma, Blemish Det, Negative
WDR	Full WDR	OFF / Full WDR / Light WDR (Contrast)
Motion Det	OFF	OFF / ON (Detect Sense, Area Sel, Mode, Top, Bottom, Left, Right)
Privacy	Option	OFF / ON (Area Sel, Mode, Position, Color, Transp, Mosaic)
Day / Night	AUTO	Auto / Color / Mono
NR	Option	Level
Camera ID	OFF	OFF / ON
SYNC	INT	INT
Language	English	ENGLISH / SPANISH / RUSSIAN / GERMAN / FRENCH / JAPANESE or PORTUGUESE
Camera Reset	Option	
Ezoom	Option	Mag / Pan / Tilt
DIS	OFF	OFF/ON
Focus ADJ	Option	Focus Val
Alarm	Option	Defocus Txt, Alarm Out, Trigger, Normal Out
Back		
Exit		
Save All		

Table 3-2 OSD Menu of FD5-DWV10-6(X) / FD5-DWV22-6(X)

4. OSD Menu Settings

Entering OSD Menu

Push in on the joystick to open the Main menu. Use the UP/DOWN functions of the joystick to move the cursor to the item you want to modify. A selected menu item will be highlighted.



Press UP: Press to move the cursor up.

Press Down: Press to move the cursor down.

Enter button: Push in on the joystick to enter the selected item or change the settings of the selected item.

Press Right: Press to change the settings of the selected item.

Press Left: Press to change the settings of the selected item.

Note: When an item is selected, it will be highlighted.

After all the settings have been satisfied, move the cursor to the "Save All" item and press the enter button. Then move the cursor to the "EXIT" item and press the enter button to exit OSD setup menu.

You can also restore the settings to factory default by moving the cursor to the "CAMERA RESET" item and then pressing the Enter button. Then move the cursor to the "Save All" item and press the Enter button.

Menu Settings

Section 4 (A) is for models: FD5-V9-6(X) FD5-DV10-6(X) FD5-IRV10-6(X)

Use the OSD menu to set up the camera for optimum performance.

LENS	AUTO
SHUTTER/AGC	AUTO
WHITE BAL	ATW
BACKLIGHT	OFF
PICT ADJUST	
ATR	OFF
MOTION DET	OFF
NEXT	
EXIT	SAVE ALL

PRIVACY	OFF
DAY/NIGHT	AUTO
NR	
CAMERA ID	OFF
SYNC	INT
LANGUAGE	ENGLISH
CAMERA RESET	
BACK	
EXIT	SAVE ALL

4.1(A) LENS

Select Auto or Manual lens function. The default setting is AUTO (Auto Iris lens). Move the joystick control LEFT or RIGHT to select Auto or Manual Lens. Enter the AUTO submenu as shown in the figure. Move the joystick control UP or DOWN to open, close, or set IRIS to auto mode. Move the joystick control UP or DOWN to adjust the DC Iris Lens convergence speed.

If the speed value is lower, the IRIS will be slower. If speed value is higher, the IRIS will be faster.

TYPE	DC
MODE	OPEN
SPEED	046
RETURN	

4.2(A) SHUTTER/AGC

Set Shutter speed/AGC (Auto Gain Control) function. The default setting is AUTO. Move the joystick control LEFT or RIGHT to select AUTO or MANUAL.

SUGGESTED USE:

DC Lens: When using DC lens, we recommend you set SHUTTER/AGC to AUTO mode. Enter the AUTO submenu as shown in the figure. Move the joystick control UP or DOWN to adjust HIGH LUMINANCE MODE to AUTO IRIS.

Manual Lens: When using MANUAL lens, we recommend you set SHUTTER/AGC to AUTO mode. Enter the AUTO submenu as shown in the figure. Move the joystick control UP or DOWN to adjust HIGH LUMINANCE MODE and LOW LUMINANCE setting.

Menu Settings

AUTO IRIS and SHUT+AUTO IRIS difference

- Use DC lens and setting to AUTO IRIS mode for normal condition application environments. The IRIS level will be controlled by camera brightness.
- Use DC lens and setting to SHUT+AUTO IRIS mode for high light application environments. The exposure will be controlled by AES or the DC Iris. The iris level will be controlled by camera brightness.

HIGH LUMINANCE	
MODE	AUTO IRIS
BRIGHTNESS	024
LOW LUMINANCE	
MODE	AGC
BRIGHTNESS	x 0.25
RETURN	

This function adjusts the level of video out in a low light condition (when AGC mode is ON and/or Slow-Shutter mode is ON).

Brightness Level: x0.25, x0.50, x0.75, x1.00 (default setting is x1.00 – brightest).

If image is too bright in low-light decrease the level.

In low light more noise may be seen if Brightness Level is set to x1.00 with AGC ON mode.

In low light more motion artifacts may be seen if Brightness Level is set to x1.00 with Slow-Shutter ON mode.

This feature is disabled when WDR Mode is ON.

The shutter speed is variable from 1/50(1/60) sec to the 1/10Ksec and the AGC is selectable depending on your environment condition.

MODE	SHUT+AGC
SHUTTER	1/50(1/60)
AGC	6.0
RETURN	

Note: Menu settings for Lens and Shutter/AGC

- When the camera first starts up the menu setting for Lens=Auto (Mode=Auto) and the settings for Shutter/AGC= High Luminance=Auto Iris
- When you change Lens=Manual then the default settings for Shutter/AGC= High Luminance=Shut
- When you change Lens=Auto then the settings for Shutter/AGC=Shut+AutoIris (this is not the default value of menu setting when first turned on)

4.3(A) WHITE BAL

WHITE BALANCE controls color on the screen. The default is ATW. The color temperature range is 2500°K ~ 9500°K. Move the joystick control LEFT or RIGHT to select ATW (Auto White Balance), PUSH, PUSH LOCK, USER1, USER2, Anti CR (Anti Color Rolling Suppression) or MANUAL mode. Enter the ATW submenu as shown in the figure below. Move the joystick control UP or DOWN to select the desired value. Select ATW (Auto White Balance) when the scene illumination varies between outdoor scenes and outdoor scene lighting.

Note: When setting different value of ATW FRAME and application environment, the color temperature range of white balance will be changed. The color temperature range of x0.50 of ATW FRAME will be smaller than x2.00.

SPEED	171
DELAY CNT	152
ATW FRAME	x 0.50
ENVIRONMENT	OUTDOOR
RETURN	

Menu Settings

If you select MANUAL mode, you can adjust LEVEL from 17 to 54.

If you select USER1 or USER2 mode, you can adjust B-GAIN and R-GAIN value from 0 to 255.

If you select PUSH mode in the appropriate position, the whole area will perform white balance.

If you select PUSH LOCK mode in the appropriate position, WHITE BALANCE will perform once.

If you select Anti CR mode in the appropriate position, the whole area will effectively restrain color cast.

4.4(A) BACKLIGHT

Set the Backlight compensation function. The default is OFF. Move the joystick control LEFT or RIGHT to select OFF, BLC or HLC (Highlight Compensation) mode. When you switched BLC, the function controls the light level to overcome severe backlighting conditions. HLC activated automatically depending on the shooting condition (detects night and high-luminance)

BLC and HLC Compensation are the functions that achieve the brightness of a selected area to an optimum image level. Due to the intense light coming from the back of objects in the area expected to view, the auto iris lens tends to close and areas you want to see become dark and invisible.

4.5(A) PICTURE ADJUST

Set the PICTURE ADJUST function. Enter the PICT ADJUST submenu as shown in the figure below. Move the joystick control UP or DOWN to set picture Brightness, Contrast, Sharpness, Hue, or Gain value. In addition, you can set MIRROR to the ON mode then the picture to be left or right.

MIRROR	OFF
BRIGHTNESS	000
CONTRAST	128
SHARPNESS	128
HUE	128
GAIN	128
RETURN	

4.6(A) ATR*

Set the ATR (Adaptive Tone-curve Reproduction) function. The default is OFF. Move the joystick control LEFT or RIGHT to select the ON mode, then enter to the ATR submenu. You can set LUMINANCE and CONTRAST to optimize by image.

LUMINANCE	LOW
CONTRAST	LOW
RETURN	

*Also known as Wide Dynamic Range. This function expands the video dynamic range of the camera and improves visibility of images even in high contrast environments.

Menu Settings

4.7(A) MOTION DET

Set the Motion Detection function. MOTION DET allows moving objects to be detected on the screen. The default is OFF. Move the joystick control LEFT or RIGHT to select the ON mode then enter to the MOTION DET submenu. You can set 4 motion areas to detect moving objectives and adjust the motion detection sensitivity. Use the LEFT/RIGHT functions of the joystick control to set the sensitivity from 000 to 127.

DETECT SENSE	100
BLOCK DISP	OFF
MONITOR AREA	OFF
AREA SEL	1/4
TOP	000
BOTTOM	000
LEFT	000
RIGHT	000
RETURN	

Note: Only **FD5-DV10(X)** and **FD5-IRV10(X)** have "Alarm Out", but no menu items for this function, so you can set the alarm out by following these instructions:

For **FD5-DV10(X)** / **FD5-IRV10(X)**, the motion detection item also controls alarm out. So you need to select the motion detection function to set alarm out.

Select BLOCK DISP to trigger motion detection. If something is moving in the area, the image will show blocks. It is just a warning message to the user. Enter button around 2~3 sec, It will exit to BLOCK DISP. MONITOR AREA also means "Alarm Area". If you use the model included "Alarm Out", you can set the area you want to trigger motion detection when there is something moving in your selected area. If you have connected external devices such as sirens or flashing lights to the alarm output connector to signal users of the camera that an alarm is activated.

4.8(A) PRIVACY

Set the Privacy function. The default setting is OFF. Move the joystick control LEFT or RIGHT to select the ON mode then enter to the PRIVACY submenu. You can configure 8 privacy positions, set 8 privacy areas, choose different color zones and set transparency of 8 privacy zones. However if you enable the MOTION DET function, then the PRIVACY function will support 4 zones only. In addition, the image of PRIVACY can allow you to set the MOSAIC function.

REA SEL	1/8
TOP	000
BOTTOM	000
LEFT	000
RIGHT	000
COLOR	1
TRANSP	0.00
MOSAIC	OFF
RETURN	

Menu Settings

4.9(A) DAY/NIGHT

Set the DAY/NIGHT function. The default setting is AUTO. Move the joystick control LEFT or RIGHT to select the AUTO, COLOR, BW mode. Enter the AUTO submenu as shown in the figure below. Move the joystick control UP or DOWN to adjust BURST value and set the time before the camera switches to DAY-> NIGHT mode or NIGHT->DAY mode.

Select Day->NIGHT level to set up switchover point of brightness from COLOR mode to B/W mode under different Lux levels.

Select NIGHT->DAY level to set up switchover point of brightness from B/W mode to COLOR mode under different Lux levels.

BURST	OFF
DELAY CNT	100
DAY->NIGHT	100
NIGHT->DAY	100
RETURN	

If you selected COLOR mode, you can force the camera to stay in DAY (COLOR) mode.

If you selected BW mode, you can force the camera to stay in BW (NIGHT) mode. The BW submenu allows you to turn ON or OFF the BURST signal. What's the difference between BURST ON and BURST OFF? When you select ON, the image is color with the signal of Y (BRIGHT) / C (COLOR); however, the signal value of C (COLOR) is 0.

Note: The **FD5-IRV series** camera will automatically switch to B/W mode when the illumination is under a certain threshold. There is no need to adjust this setting.

4.10(A) NR

You can configure the 2D DNR (Digital Noise Reduction) settings and reduce noise on the screen. Enter NR submenu as shown in the figure below. Move the joystick control UP or DOWN to set NR MODE.

When you enable the NR MODE to the Y (BRIGHT) / C (COLOR), C LEVEL or Y LEVEL mode, you can adjust Y LEVEL or C LEVEL depending on your environment condition.

NR MODE	Y/C
Y LEVEL	000
C LEVEL	000
RETURN	

Note: When the Y Level value higher the noise in dark areas lessens. Also, the resolution will become lower. When it is lower, there is more noise in dark areas.

When the C Level is higher the noise in dark areas lessens. Also, the resolution will become lower. When it is lower, there is more noise in dark areas.

In the dark environment, you can adjust the value higher of Y Level to reduce the dark noise; adjust the value higher of C Level to reduce the color noise.

Menu Settings

4.11(A) CAMERA ID

CAMERA ID displays ON or OFF. The default setting is OFF. You can set the ON mode to add a camera title up to 26 characters at 2 lines and on the top of the monitor screen.

4.12(A) SYNC

The default setting is INT. This has no adjustment.

4.13(A) LANGUAGE

OSD supports 6 available languages. The default setting is English. Move the joystick control LEFT or RIGHT to select the ENGLISH / SPANISH / RUSSIAN / GERMAN / FRENCH / JAPANESE or PORTUGUESE.

4.14(A) CAMERA RESET

Move to the CAMERA RESET mode then Press the ENTER key to recall factory settings.

4.15(A) SAVE ALL

Save all settings and exit.

“Save All” MUST be selected. If not selected, settings will revert to previously saved settings if power is cycled.

Menu Settings

Section 4 (B) is for models: FD5-DWV10-6(X)/FD5-DWV22-6(X)

Use the OSD menu to set up the camera for optimum performance.

SETUP MENU 1/3	
LENS	AUTO
SHUTTER/AGC	
WHITE BAL	ATW
HLC/BLC	
PICT ADJUST	
WDR	FULL WDR
MOTION DET	OFF
NEXT	
EXIT	SAVE ALL

SETUP MENU 2/3	
PRIVACY	
DAY/NIGHT	AUTO
NR	
CAMERA ID	OFF
SYNC	INT
LANGUAGE	ENGLISH
CAMERA RESET	
BACK	NEXT
EXIT	SAVE ALL

SETUP MENU 3/3	
EZOOM	
DIS	OFF
FOCUS ADJ	
ALARM	
BACK	
EXIT	SAVE ALL

Note: All the value or configurations shown in the figures above are the camera's default settings.

4.1(B) LENS

The LENS settings allow you to configure Lens and speed. The options are AUTO (Auto Iris lens) and MANUAL. The default setting is AUTO.

In the AUTO submenu, you can set the MODE as AUTO. Then select SPEED to adjust the DC Iris Lens convergence speed from 000~255.

If the speed value is lower, the IRIS will be slower. If the speed value is higher, the IRIS will be faster.

AUTO IRIS	
TYPE	DC
MODE	AUTO
SPEED	048
RETURN	

Menu Settings

4.2(B) SHUTTER/AGC

You can set the SHUTTER/AGC as AUTO or MANUAL. The default setting is AUTO.

You can select HIGH LUMINANCE MODE or LOW LUMINANCE MODE and adjust the BRIGHTNESS.

The brightness level ranges from 0~255. The IRIS level will be controlled by camera brightness.

SUGGESTED USE:

DC Lens: When using the DC lens, we recommend you set SHUTTER/AGC to AUTO mode. Enter the AUTO submenu as shown in the figure below. Move the joystick control UP or DOWN to adjust HIGH LUMINANCE MODE to AUTO IRIS.

Manual Lens: When using the MANUAL lens, we recommend you set SHUTTER/AGC to AUTO mode. Enter the AUTO submenu as shown in the figure below. Move the joystick control UP or DOWN to adjust the HIGH LUMINANCE MODE and the LOW LUMINANCE setting.

AUTO SETUP	
HIGH LUMINANCE MODE	AUTO IRIS
BRIGHTNESS	034
LOW LUMINANCE MODE	AGC
BRIGHTNESS	-
RETURN	

The shutter speed is variable from 1/50(1/60) sec to the 1/10K sec and the AGC is selectable depending on your environment condition.

AUTO IRIS and SHUT+AUTO IRIS difference

- Use the DC lens set to AUTO IRIS mode for normal condition application environments. The IRIS level will be controlled by camera brightness.
- Use the DC lens set to SHUT+AUTO IRIS mode for high light application environments. The exposure will be controlled by AES or the DC Iris. The iris level will be controlled by camera brightness.

In HIGH LUMINANCE MODE, the submenu appears as follows. When the high luminance mode is on, the shut could not be set.

HIGH LUMINANCE SETUP	
SHUT	-
RETURN	

Menu Settings

In LOW LUMINANCE MODE, LOW LUMINANCE could be set as AGC, SLOW, AGC→SLOW, AGC→SLOW→AGC, and OFF.

BRIGHTNESS adjusts the level of video out in low-light conditions (when AGC mode is ON and/or Slow-Shutter mode is ON). Brightness Level: x0.25, x0.50, x0.75, x1.00 (default setting is x1.00 - brightest) If the image is too bright in low light, decrease the level.

In low light more noise may be seen if the brightness Level is set to x1.00 with AGC ON mode.

In low light more motion artifacts may be seen if the Brightness Level is set to x1.00 with Slow-Shutter ON mode.

Enter the LOW LUMINANCE MODE submenu shown as the following figure.

There are 10 levels for selection. Depending on your environment condition, SLOW SHUT could be selected as OFF, x2, x4, x8, x16, x32, x64, x128, x256; the default SLOW SHUT is x4.

LOW LUMINANCE SETUP	
AGC	010
SLOW SHUT	x4
RETURN	

Note: Menu settings for Lens and Shutter/AGC

- When the camera first starts up the menu setting for Lens=Auto (Mode=Auto) and the settings for Shutter/AGC=High Luminance=Auto Iris
- When you change Lens=Manual then the default settings for Shutter/AGC=High Luminance=Shut
- Slow Shutter is a method of a longer time passing from the moment the shutter opens till the moment it closes, by which the camera lens is able to accumulate enough light intensity under low illuminating environment for a better image. The bigger the value selected, the slower the shutter will be adopted.

4.3(B) WHITE BAL

WHITE BALANCE controls color on the screen. Options include ATW (Auto White Balance), PUSH, USER1, USER2, Anti CR (Anti Color Rolling Suppression), MANUAL or PUSH LOCK mode. The default is ATW. The color temperature range is 2500°K ~ 9500°K.

Enter the **ATW** submenu as shown in the figure below. Select ATW when the scene illumination varies between indoor scenes and outdoor scene lighting. The SPEED and DELAY CNT have 000~255 levels to select respectively. You can set ATW FRAME as x0.5, 1.0, 1.5, 2.0 or MAX.

In the **Environment** submenu, you can choose the standard, indoor or outdoor according to your shooting environment.

ATW SETUP	
SPEED	016
DELAY CNT	016
ATW FRAME	x1.0
ENVIRONMENT	STANDARD
RETURN	

Note: When you are setting a different value of the ATW FRAME and the application environment, the color temperature range of white balance will be changed. The color temperature range of x0.5 of ATW FRAME will be smaller than x2.0.

Menu Settings

If you selected MANUAL mode as shown in the following figure, you can adjust the LEVEL by pushing enter or preset the configuration.

MANUAL WB	
LEVEL UP	PUSH ENTER
LEVEL DOWN	PUSH ENTER
PRESET	
RETURN	

If you selected USER1 or USER2 mode as shown in the following figures, you can adjust the B-GAIN and R-GAIN values from 000 to 255.

USER1 WB		USER2 WB	
B-GAIN	029	B-GAIN	045
R-GAIN	050	R-GAIN	038
RETURN		RETURN	

If you selected PUSH mode in the appropriate position, the whole area will perform white balance.

If you selected PUSH LOCK mode in the appropriate position, WHITE BALANCE will perform once.

If you selected Anti CR mode in the appropriate position, the whole area will effectively restrain color cast.

4.4(B) HLC/BLC

Set the Backlight Compensation (BLC) function and the Highlight Compensation (HLC) function. BLC and HLC Compensation are the functions that achieve the brightness of a selected area to an optimum image level. Due to the intense light coming from the back of objects in the area expected to view, the auto iris lens tends to close and areas you want to see become dark and invisible.

Available options include OFF, ON or AUTO mode. The default is OFF.

If HLC is selected, HLC is activated automatically when the camera detects high-luminance. When you select ON, the function controls the light level to overcome severe backlighting conditions. The clip level ranges from 000 to 255 and the scale has 15 levels.

HLC/BLC	
HLC	OFF
CLIP LEVEL	000
SCALE	010
BLC	-
RETURN	

Menu Settings

4.5(B) PICTURE ADJUST

PICTURE ADJUST allows you to adjust picture settings for the optimal image. In the PICT ADJUST submenu, you can adjust picture Flip, Contrast, Sharpness, Chroma, Blemish detection, or Negative. The options OFF, V-FLIP, H-FLIP and HV-FLIP are selectable in Flip line.

In the BLEMISH DET submenu, you can set the blemish compensation function. Press <SET> and wait to be confirmed. After that, the white blemish will be removed, then back to the optimal image.

Contrast could be selected from 000 to 063, Sharpness is 000~015, and Chroma is 000~008.

PICT ADJUST	
FLIP	OFF
CONTRAST	038
SHARPNESS	008
CHROMA	002
BLEMISH DET	SET
NEGATIVE	OFF
RETURN	

4.6(B) WDR

Set the WDR (Wide Dynamic Range) function. The Wide Dynamic Range (WDR) function is intended to provide clear images even under back light circumstances where the intensity of illumination can vary widely.

The default setting is FULL WDR; it also has the options of OFF and LIGHT WDR. In WDR SETUP submenu, you can set CONTRAST as MID, MIDHIGH, HIGH, LOW or MIDLOW to optimize the image. The submenu of Light WDR is the same as the WDR SETUP submenu. Or you can select OFF to close the WDR function.

WDR SETUP	
CONTRAST	MID
RETURN	

Menu Settings

4.7(B) MOTION DET

MOTION DET allows you to detect moving objects on the screen. The default is OFF. If you select ON, you will enter the MOTION DET submenu. You can set 4 motion areas to detect moving objectives and adjust the motion detection sensitivity. The value of sensitivity is from 000 to 127.

MONITOR AREA	
DETECT SENSE	111
AREA SEL	1/4
MODE	ON
TOP	002
BOTTOM	003
LEFT	004
RIGHT	005
RETURN	

4.8(B) PRIVACY

The PRIVACY function masks up to 15 privacy areas on the screen from video monitoring. The default setting is OFF. If you select ON, you will enter the PRIVACY submenu. You can configure up to 15 privacy areas and set color and transparency of the privacy zones. In addition, you can enable MOSAIC function for the privacy zone.

PRIVACY	
AREA SEL	1/15
MODE	OFF
POSITION	-
COLOR	-
TRANSP	-
MOSAIC	-
RETURN	

Note: When TRANSP is 1.00, Mosaic function is not available.

4.9(B) DAY/NIGHT

Set the DAY/NIGHT function. The default setting is AUTO. Move the joystick control LEFT or RIGHT to select the AUTO, COLOR, or MONO mode. Enter the AUTO submenu as shown in the figure below. Move the joystick control UP or DOWN to turn BURST ON/OFF and set the time before the camera switches to DAY-> NIGHT mode or NIGHT->DAY mode. The Delay CNT has a range from 000 to 255 and both switch modes allow you to select 20 levels.

DAY/NIGHT SETUP	
BURST	OFF
DELAY CNT	015
DAY→NIGHT	008
NIGHT→DAY	012
RETURN	

Menu Settings

Setting threshold for DAY -> NIGHT allows camera to detect and switch mode automatically under user-defined brightness value. The lower the value (Min. 0), the darker the environment needed for the camera switching from DAY to NIGHT mode.

On the other hand, the threshold of NIGHT -> DAY is for the camera to switch automatically from NIGHT to DAY mode under a certain defined value. The higher the value (Max. 20), the brighter the environment needed for auto switching.

If you selected COLOR mode, you can force the camera to stay in COLOR (DAY) mode.
If you selected MONO mode, you can force the camera to stay in MONO (NIGHT) mode.

4.10(B) 3D NR

3D NR allows you to configure the DNR (Digital Noise Reduction) settings to reduce noise on the screen. In the NR submenu, you can adjust NR LEVEL. When you enable the NR MODE, you can choose LOW, MIDLOW, MID, MIDTHIGH, or HIGH LEVEL depending on your environment condition.

NR SETUP	
LEVEL	OFF
RETURN	

4.11(B) CAMERA ID

Turn ON to display CAMERA ID or turn OFF to disable. The default setting is OFF. You can set to ON mode to add a camera title up to 26 characters within 1 line appearing on the top of the monitor screen.

4.12(B) SYNC

The default setting is INT. This has no adjustment.

4.13(B) LANGUAGE

OSD supports 6 multi built-in languages. The default setting is English. Options include ENGLISH / SPANISH / RUSSIAN / GERMAN / FRENCH / JAPANESE or PORTUGUESE.

4.14(B) CAMERA RESET

Move to the CAMERA RESET mode then Press the ENTER key to recall factory settings.

4.15(B) EZOOM

Enter EZOOM SETUP submenu as shown in the following figure. Move the joystick control LEFT or RIGHT to select PAN /TILT value for zooming in and out of the image. The PAN range is 000~1023 and the TILT range is 000~5110.

EZOOM SETUP	
MAG	000
PAN	512
TILT	256
RETURN	

Menu Settings

4.16(B) DIS

The DIS (Digital Image Stabilizer) function detects a shaking image due to camera shaking, and perform digital compensation processing to stabilize the image output. The default setting is OFF.

- Note: When you choose DIS on, EZOOM function is NOT configurable at the same time.

4.17(B) FOCUS ADJ

The value shown is for reference on the precision of the focus level. The larger the value, the clearer the image will be.

ADJUST FOCUS OF THE LENS	
FOCUS VAL	2121
RETURN	

4.18(B) ALARM

In this function line, you can set a series of general parameters for ALARM. Press joystick control to enter the ALARM SETUP submenu as shown in the figure below.

ALARM SETUP	
DEFOCUS TXT	
ALARM OUT	
TRIGGER	AUX
NORMAL OUT	OPEN
RETURN	

For Submenu DEFOCUS TXT

Choose and press joystick control to enter the DEFOCUS TXT SETUP submenu as shown in the figure below. The DEFOCUS TXT can be set as Off/ON, DEFOCUS LEVEL is 000~007. Use this feature when your application requires screen notification of a camera tamper.

DEFOCUS SETUP	
DEFOCUS TXT	OFF
DEFOCUS LEV	003
RETURN	

For Submenu ALARM OUT

You can configure the ALARM OUT TRIGGER as AUX or MOTION DET. Choose AUX when your application requires that the Coaxitron® remote control will be used to activate the Alarm Out. Choose MOTION DET when your application requires that when motion is detected the Alarm Out is activated. Only one type of Alarm Out can be specified.

Menu Settings

Note:

When set to AUX, the Alarm Out function will operate as follows from Coaxitron® remote control:

- AUX 1: Activates Alarm Out
- AUX 2: Activates Alarm Out for 2 seconds and then returns to deactivated state
- AUX 3: Deactivates Alarm Out

For Submenu NORMAL OUT

The default setting is Relay Open. The option can be set to Relay Closed. Configure this setting to match your attached accessory logic.

4.19(B) REMOTE

This remote function does not show on the OSD menu. It is built in support for PELCO Coaxitron®. A single video cable connection is used to transmit a video signal and control the PTZ and lens.

4.20(B) SAVE ALL

Save all settings and exit.

Specification

5. Specifications

FD5-V Series

Camera System Type	FD5-V9-6	FD5-V9-6X
Format	NTSC	PAL
Optical System		
Imager Size	1/3"	
IR Cut Filter	Fixed	
Electric		
Sync System	Internal	
Lens Options	F1.2, 3-9mm, DC AI	
Horizontal Resolution	650 TVL	
Field Of View	fW 3mm Horizontal: (78°±2°)° Vertical: (57°±2°)° fT 9mm Horizontal: 31°Vertical: 23°	
Min. Object Distance	0.5m~∞	
Sensitivity	f/1.2; 2,850°K; 30 IRE Color (17 ms) 0.1 Lux Mono (17ms) 0.1 Lux	f/1.2 ; 30 IRE Color (20 ms) 0.1 Lux Mono (20 ms) 0.1 Lux
Shutter	Auto: 1/60~1/10,000 Manual: 1/60~10,000	Auto: 1/50~1/10,000 Manual: 1/50~10,000
WDR	On / Off (selectable, ATR)	
Noise Reduction-DNR	2D	
Motion Detection	Yes - Four (4) areas, sensitivity selectable	
Privacy Zones	Yes-8 sizable windows	
Camera Titles	Yes	
Connection/Termination	Flying leads (through the back)	
Set Up/OSD Input Device	Input Buttons/5 Way Rocker	
Multi Language	English, Russian, German, French, Spanish, Japanese	English, Russian, German, French, Spanish, Portuguese
Service Jack(RCA)	2 pin connector for monitor out	
Set Up	OSD	
Power supply		
Power	18 to 32 VAC 50/60 Hz/12 VDC +10% to -15% (Revision A)	
Power Consumption	2.5 W (without heater) 15 W (with heater on)	
Environment		
Operating Temperature Range	-30° C to +50°C under power supply 18 to 32V AC 0° C to +50°C under power supply 12V DC	
Operating humidity	20~95% non-condensing	
Mechanism		
Construction	Aluminum Diecast	
Bubble Diameter	< 101mm	
Positioning Mechanism/Adjustment	Manual 3 Axis Gimble	
Impact Resistance	IK10	
Dimension	135mm X 108.5mm	
Weight(unit)	730g	

Specification

FD5-DV Series

Camera System Type	FD5-DV10-6	FD5-DV10-6X
Format	NTSC	PAL
Optical System		
Imager Size	1/3"	
IR Cut Filter	Yes - D/N Switch	
Low Light Technology	ICR	
Electric		
Sync System	Internal	
Lens Options	F1.2, 2.8~10.5mm DC AI	
Horizontal Resolution	650 TVL	
Field Of View	fW 2.8mm Horizontal: (97°±2°) Vertical: (70°±2°) fT 10.5mm Horizontal: 27° Vertical: 20°	
Min. Object Distance	0.3m~∞	
Sensitivity	f/1.2; 2,850°K; 30 IRE Color (17 ms) 0.1 Lux Mono (17ms) 0.05 Lux	f/1.2 ; 30 IRE Color (20 ms) 0.1 Lux Mono (20 ms) 0.05 Lux
Shutter	Auto: 1/60~1/10,000 Manual: 1/60~10,000	Auto: 1/50~1/10,000 Manual: 1/50~10,000
WDR	On / Off (selectable, ATR)	
Noise Reduction-DNR	2D	
Motion Detection	Yes - Four (4) areas, sensitivity selectable	
Privacy Zones	Yes-8 sizable windows	
Camera Titles	Yes	
Camera ID	Yes	
Connection/Termination	Flying leads (through the back)	
Set Up/OSD Input Device	Input Buttons/5 Way Rocker	
Multi Language	English, Russian, German, French, Spanish, Japanese	English, Russian, German, French, Spanish, Portuguese
Service Jack(RCA)	2 pin connector for monitor out	
Set Up	OSD	
Power supply		
Power	18 to 32 VAC 50/60 Hz/12 VDC +10% to -15% (Revision A)	
Power Consumption	2.5 W (without heater) 15 W (with heater on)	
Environment		
Operating Temperature Range	-30° C to +50°C under power supply 18 to 32 V AC 0° C to +50°C under power supply 12V DC	
Operating humidity	20~95% non-condensing	
Mechanism		
Construction	Aluminum Diecast	
Bubble Diameter	< 101mm	
Positioning Mechanism/Adjustment	Manual 3 Axis Gimble	
Impact Resistance	IK10	
Dimension	135mm X 108.5mm	
Weight(unit)	730g	

Specification

FD5-IRV Series

Camera System Type	FD5-IRV10-6	FD5-IRV10-6X
Format	NTSC	PAL
Optical System		
Imager Size	1/3"	
IR Cut Filter	Yes - D/N Switch	
Low Light Technology	ICR and LEDs	
Electric		
Sync System	Internal	
Lens Options	F1.2, 2.8~10.5mm DC AI	
Horizontal Resolution	650 TVL	
Field Of View	fW 2.8mm Horizontal: (97°±2°) Vertical: (70°±2°) fT 10.5mm Horizontal: 27° Vertical: 20°	
Min. Object Distance	0.3m~∞	
Sensitivity	f/1.2; 2,850°K; 30 IRE Color (17 ms) 0.1 Lux Mono (with IR) 0 Lux	f/1.2; 2,850°K; 30 IRE Color (20 ms) 0.1 Lux Mono (with IR) 0 Lux
Shutter	Auto: 1/60~1/10,000 Manual: 1/60~10,000	Auto: 1/50~1/10,000 Manual: 1/50~10,000
IR Illumination Type	IR compensation	
IR Illumination Distance	25 meters	
IR Sensitivity	850nm >40% Peak Response	
WDR	On / Off (selectable, ATR)	
Noise Reduction-DNR	2D	
Motion Detection	Yes - Four (4) areas, sensitivity selectable	
Privacy Zones	Yes-8 sizable windows	
Camera Titles	Yes	
Camera ID	Yes	
Connection/Termination	Flying leads (through the back)	
Set Up/OSD Input Device	Input Buttons/5 Way Rocker	
Multi Language	English, Russian, German, French, Spanish, Japanese	English, Russian, German, French, Spanish, Portuguese
Service Jack(RCA)	2 pin connector for monitor out	
Set Up	OSD	
Power supply		
Power	18 to 32 VAC 50/60 Hz/12 VDC +10% to -15% (Revision A)	
Power Consumption	4W (IR on, without heater) 17W (IR on, with heater on)	
Environment		
Operating Temperature Range	-30° C to +50°C under power supply 18 to 32V AC 0° C to +50°C under power supply 12V DC	
Operating humidity	20~95% non-condensing	
Mechanism		
Construction	Aluminum Diecast	
Bubble Diameter	< 101mm	
Positioning Mechanism/Adjustment	Manual 3 Axis Gimble	
Impact Resistance	IK10	
Dimension	135mm X 108.5mm	
Weight(unit)	730g	

Specification

FD5-DWV Series

Camera System Type	FD5-DWV10-6	FD5-DWV10-6X
Format	NTSC	PAL
Optical System		
Imager Size	1/3"	
IR Cut Filter	Yes - D/N Switch	
Low Light Technology	ICR	
Electric		
Sync System	Internal	
Lens Options	F1.2, 2.8-10.5mm, DC AI	
Horizontal Resolution	650 TVL	
Field Of View	fW 2.8mm Horizontal: (97°±2°) Vertical: (70°±2°) fT 10.5mm Horizontal: 27° Vertical: 20°	
Min. Object Distance	0.3m~∞	
Sensitivity	f/1.2; 2,850°K; 30IRE Color (17 ms) 0.13 Lux Color (500 ms) 0.004 Lux Mono (17 ms) 0.03 Lux Mono (500 ms) 0.001 Lux	f/1.2; 2,850°K; 30IRE Color (20 ms) 0.13 Lux Color (500 ms) 0.004 Lux Mono (20 ms) 0.03 Lux Mono (500 ms) 0.001 Lux
Shutter	Auto: 1/60~1/100,000 Manual: 1/60~1/10,000 Slow shutter support: 2X-256X	Auto: 1/50~1/100,000 Manual: 1/50~1/10,000 Slow shutter support: 2X-256X
White Balance	ATW / Push / USER1 / USER2 / ANTI CR / Manual / Push lock	
WDR	120dB D-WDR	
Noise Reduction-DNR	3D	
Motion Detection	Yes - Four (4) areas, sensitivity selectable	
Image Stabilization	Yes	
Privacy Zones	Yes-15 sizable windows	
Camera Titles	Yes	
Scene Learning/Analytics	Yes	
Remote Access	Coaxitron	
Outputs	Yes	
Connection/Termination	Flying leads (through the back)	
Set Up/OSD Input Device	Input Buttons/5 Way Rocker	
Multi Language	English, Russian, German, French, Spanish, Japanese	English, Russian, German, French, Spanish, Portuguese
Service Jack(RCA)	2 pin connector for monitor out	
Set Up	OSD	
Power supply		
Power	18 to 32 VAC 50/60 Hz/12 VDC +10% to -15% (Revision A)	
Power Consumption	4W (Heater off) 16W (Heater on)	
Environment		
Operating Temperature Range	-30C ~ +50°C under power supply 18-32V AC 0° C ~ +50°C under power supply 12V DC	
Operating humidity	20~80% non-condensing	
Mechanism		
Construction	Aluminum Diecast	
Bubble Diameter	< 101mm	
Positioning Mechanism/Adjustment	Manual 3 Axis Gimble	
Impact Resistance	IK10	
Dimension	135mm X 108.5mm	
Weight(unit)	730g	

Specification

FD5-DWV Series

Camera System Type	FD5-DWV22-6	FD5-DWV22-6X
Format	NTSC	PAL
Optical System		
Imager Size	1/3"	
IR Cut Filter	Yes - D/N Switch	
Low Light Technology	ICR	
Electric		
Sync System	Internal	
Lens Options	F1.5, 9~22mm DC AI	
Horizontal Resolution	650 TVL	
Field Of View	fW 9mm Horizontal: 31° Vertical: 23° fT 22mm Horizontal: 13° Vertical: 10°	
Min. Object Distance	0.3m~∞	
Sensitivity	f/1.5; 2,850°K; 30IRE Color (17 ms) 0.15 Lux Color (500 ms) 0.008 Lux Mono (17 ms) 0.05 Lux Mono (500 ms) 0.002 Lux	f/1.5; 2,850°K; 30IRE Color (20 ms) 0.15 Lux Color (500 ms) 0.008 Lux Mono (20 ms) 0.05 Lux Mono (500 ms) 0.002 Lux
Shutter	Auto: 1/60~1/100,000 Manual: 1/60~1/10,000 Slow shutter support: 2X-256X	Auto: 1/50~1/100,000 Manual: 1/50~1/10,000 Slow shutter support: 2X-256X
White Balance	ATW / Push / USER1 / USER2 / ANTI CR / Manual / Push lock	
WDR	120dB D-WDR	
Noise Reduction-DNR	3D	
Motion Detection	Yes - Four (4) areas, sensitivity selectable	
Image Stabilization	Yes	
Privacy Zones	Yes-15 sizable windows	
Camera Titles	Yes	
Scene Learning/Analytics	Yes	
Remote Access	Coaxitron	
Outputs	Yes	
Connection/Termination	Flying leads (through the back)	
Set Up/OSD Input Device	Input Buttons/5 Way Rocker	
Multi Language	English, Russian, German, French, Spanish, Japanese	English, Russian, German, French, Spanish, Portuguese
Service Jack(RCA)	2 pin connector for monitor out	
Set Up	OSD	
Power supply		
Power	18 to 32 VAC 50/60 Hz/12 VDC +10% to -15% (Revision A)	
Power Consumption	4W (Heater off) 16W (Heater on)	
Environment		
Operating Temperature Range	-30C ~ +50°C under power supply 18-32V AC 0° C ~ +50°C under power supply 12V DC	
Operating humidity	20~80% non-condensing	
Mechanism		
Construction	Aluminum Diecast	
Bubble Diameter	< 101mm	
Positioning Mechanism/Adjustment	Manual 3 Axis Gimble	
Impact Resistance	IK10	
Dimension	135mm X 108.5mm	
Weight(unit)	730g	

Troubleshooting Information

Pelco Troubleshooting Contact Information

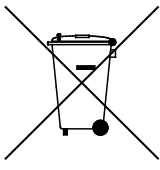
If the instructions provided fail to solve your problem, contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international) for assistance. Be sure to have the serial number available when calling.

Do not try to repair the unit yourself. Leave maintenance and repairs to qualified technical personnel only.

Note for Dimension Drawings



NOTE: VALUES IN PARENTHESES ARE INCHES; ALL OTHERS ARE CENTIMETERS.



This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C3970M	02/14	Revision A
C3970M	04/14	FD5-DWV10 added
C3970M	05/14	FD5-DWV22 added



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